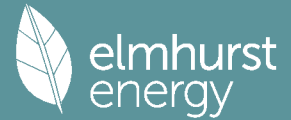


Summary for Input Data



Property Reference	House 3				Issued on Date	29/03/2023
Assessment Reference	Design V1	Prop Type Ref		New Build		
Property	House 1, Milton Mount Hill, Gravesend, Kent, DA12 1NQ					
SAP Rating	83 B	DER	3.90	TER	9.16	
Environmental	97 A	% DER < TER				57.42
CO ₂ Emissions (t/year)	0.35	DFEE	25.66	TFEE	28.48	
Compliance Check	See BREL	% DFEE < TFEE				9.90
% DPER < TPER	13.93	DPER	40.97	TPER	47.60	
Assessor Details				Assessor ID	Y314-0001	
Client						

SUMMARY FOR INPUT DATA FOR: New Build (As Designed)

Orientation	Northwest	
Property Tenture	ND	
Transaction Type	6	
Terrain Type	Suburban	
1.0 Property Type	House, End-Terrace	
Which Floor	0	
2.0 Number of Storeys	3	
3.0 Date Built	2023	
4.0 Sheltered Sides	1	
5.0 Sunlight/Shade	Average or unknown	
6.0 Thermal Mass Parameter	Precise calculation	
Thermal Mass	N/A	kJ/m²K
7.0 Electricity Tariff	Standard	
Smart electricity meter fitted	No	
Smart gas meter fitted	No	

7.0 Measurements	Heat Loss Perimeter	Internal Floor Area	Average Storey Height
Basement:	0.00 m	0.00 m²	0.00 m
Ground floor:	8.49 m	42.67 m²	2.36 m
1st Storey:	8.49 m	34.93 m²	2.64 m
2nd Storey:	10.99 m	21.81 m²	2.35 m
3rd Storey:	0.00 m	0.00 m²	0.00 m
4th Storey:	0.00 m	0.00 m²	0.00 m
5th Storey:	0.00 m	0.00 m²	0.00 m
6th Storey:	0.00 m	0.00 m²	0.00 m
7th Storey:	0.00 m	0.00 m²	0.00 m

8.0 Living Area	34.74	m²
-----------------	-------	----

9.0 External Walls	Description	Type	Construction	U-Value (W/m²K)	Kappa (kJ/m²K)	Gross Area(m²)	Nett Area (m²)	Shelter Res	Shelter	Openings	Area Calculation Type
	Cavity Wall	Cavity Wall	Cavity wall; plasterboard on dabs or battens, lightweight aggregate block, filled cavity, any outside structure	0.20	110.00	39.50	27.13	0.00	None	12.37	Enter Gross Area
	WTV	Timber Frame	Timber framed wall (one layer of plasterboard)	0.09	9.00	16.96	16.96	0.00	None	0.00	Enter Gross Area
	Dormer Walls	Timber Frame	Timber framed wall (one layer of plasterboard)	0.16	9.00	3.42	2.07	0.00	None	1.35	Enter Gross Area
	Seperating Wall	Cavity Wall	Cavity wall; plasterboard on dabs or battens, lightweight aggregate block, filled cavity, any outside structure	0.20	110.00	4.12	4.12	0.50	Room In Roof	0.00	Enter Gross Area

9.1 Party Walls	Description	Type	Construction	U-Value (W/m²K)	Kappa (kJ/m²K)	Area (m²)	Shelter Res	Shelter
	Party Wall 1	Solid Wall	Dense plaster both sides. lightweight aggregate blocks, cavity or cavity fill	0.00	140.00	117.35	0.00	None

9.2 Internal Walls	Description	Construction	Kappa (kJ/m²K)	Area (m²)
	Studwork	Plasterboard on timber frame	9.00	118.06

10.0 External Roofs

Summary for Input Data



Description	Type	Construction	U-Value (W/m²K)	Kappa (kJ/m²K)	Gross Area(m²)	Nett Area (m²)	Shelter Code	Shelter Factor	Calculation Type	Openings
Sloped Roof	External Slope Roof	Plasterboard, insulated slope	0.13	9.00	9.00	0.61	None	0.00	Enter Gross Area	0.61
Insulated Ceiling	External Plane Roof	Plasterboard, insulated at ceiling level	0.09	9.00	20.86	0.00	None	0.00	Enter Gross Area	0.00
Dormer Roof	External Plane Roof	Plasterboard, insulated at ceiling level	0.18	9.00	1.84	0.00	None	0.00	Enter Gross Area	0.00

10.2 Internal Ceilings

Description	Storey	Construction	Area (m²)
Internal Ceiling 1	Lowest occupied	Plasterboard ceiling, carpeted chipboard floor	34.93
Internal Ceiling 2	+1	Plasterboard ceiling, carpeted chipboard floor	21.81

11.0 Heat Loss Floors

Description	Type	Storey Index	Construction	U-Value (W/m²K)	Shelter Code	Shelter Factor	Kappa (kJ/m²K)	Area (m²)
Ground Floor	Ground Floor - Solid	Lowest occupied	Slab on ground, screed over insulation	0.12	None	0.00	110.00	42.67

11.2 Internal Floors

Description	Storey Index	Construction	Kappa (kJ/m²K)	Area (m²)
Internal Floor 1		Plasterboard ceiling, carpeted chipboard floor	9.00	34.93
Internal Floor 2		Plasterboard ceiling, carpeted chipboard floor	9.00	21.81

12.0 Opening Types

Description	Data Source	Type	Glazing	Glazing Gap	Filling Type	G-value	Frame Type	Frame Factor	U Value (W/m²K)
Window	Manufacturer	Window	Double Low-E Soft 0.1		Air Filled	0.63	Wood	0.70	1.20
Dormer Window	Manufacturer	Window	Double Low-E Soft 0.1		Air Filled	0.63	Wood	0.70	1.20
Glazed Door	Manufacturer	Window	Double Low-E Soft 0.1		Air Filled	0.63	Wood	0.70	1.20
Roof Window	Manufacturer	Roof Window	Double Low-E Soft 0.1		Air Filled	0.63	Wood	0.70	1.50
Solid Door	Manufacturer	Solid Door			Air Filled	0.00	Wood	0.70	1.20

13.0 Openings

Name	Opening Type	Location	Orientation	Area (m²)	Pitch
FW	Window	Cavity Wall	North West	3.32	0
RW	Window	Cavity Wall	South East	1.35	0
FDW	Dormer Window	Dormer Walls	North West	1.35	0
RR	Roof Window	Sloped Roof	South East	0.61	37
RGD	Glazed Door	Cavity Wall	South East	5.63	0
FSD	Solid Door	Cavity Wall	North West	2.07	0

14.0 Conservatory

15.0 Draught Proofing

 %

16.0 Draught Lobby

17.0 Thermal Bridging

17.1 List of Bridges

Bridge Type	Source Type	Length	Psi	Adjusted Reference:	Imported
E2 Other lintels (including other steel lintels)	Non Gov Approved Schemes	8.62	0.04	E2 - LABC	No
E3 Sill	Non Gov Approved Schemes	4.93	0.03	E3 - LABC	No
E4 Jamb	Non Gov Approved Schemes	20.34	0.03	E4 - LABC	No
R1 Head of roof window	Table K1 - Default	0.78	0.24	R1 - Default	No
R2 Sill of roof window	Table K1 - Default	0.78	0.24	R2 - Default	No
R3 Jamb of roof window	Table K1 - Default	1.56	0.24	R3 - Default	No
E5 Ground floor (normal)	Non Gov Approved Schemes	8.49	0.05	E5 - LABC	No
E16 Corner (normal)	Non Gov Approved Schemes	2.48	0.05	E16 - LABC	No
E6 Intermediate floor within a dwelling	Non Gov Approved Schemes	19.47	0.00	E6 - LABC	No
R8 Roof to wall (rafter)	Table K1 - Default	5.24	0.12	R8 - Default	No
R7 Flat ceiling (inverted)	Table K1 - Default	1.12	0.12	R7 - Default	No
E14 Flat roof	Table K1 - Default	4.41	0.16	E14 - Default	No
E18 Party wall between dwellings	Non Gov Approved Schemes	19.32	0.02	E18 - LABC	No
P2 Party wall - Intermediate floor within a dwelling	Table K1 - Default	26.08	0.00	P2 - Default	No
P1 Party wall - Ground floor	Non Gov Approved Schemes	20.11	0.02	P1 - LABC	No
P4 Party wall - Roof (insulation at ceiling level)	Non Gov Approved Schemes	14.02	0.02	P4 - LABC	No
P5 Party wall - Roof (insulation at rafter level)	Non Gov Approved Schemes	4.50	0.03	P5 - LABC	No

Y-value W/m²K

18.0 Pressure Testing

Designed AP₅₀ m³/(h.m²) @ 50 Pa

Property Tested?

Test Method

As Built AP₅₀ m³/(h.m²) @ 50 Pa

19.0 Mechanical Ventilation

Mechanical Ventilation

Summary for Input Data



Mechanical Ventilation System Present

No

20.0 Fans, Open Fireplaces, Flues

21.0 Fixed Cooling System

No

22.0 Lighting

No Fixed Lighting

No

Name
Lighting 1

Efficacy
80.00

Power
5

Capacity
400

Count
40

24.0 Main Heating 1

SAP table

Percentage of Heat

100.00

%

Database Ref. No.

0

Fuel Type

Electricity

SAP Code

224

In Winter

170.00

In Summer

170.00

Model Name

R32 8KW

Manufacturer

Samsung

Controls SAP Code

2207

Delayed Start Stat

No

HETAS approved System

No

Oil Pump Inside

No

Fan Assisted Flue

No

Is MHS Pumped

Pump in heated space

Heating Pump Age

2013 or later

Heat Emitter

Radiators and Underfloor

Underfloor Heating

Yes - Pipes in Concrete

Flow Temperature

Enter value

Flow Temperature Value

45.00

Boiler Interlock

No

25.0 Main Heating 2

None

26.0 Heat Networks

None

28.0 Water Heating

Water Heating

Main Heating 1

SAP Code

901

Flue Gas Heat Recovery System

No

Waste Water Heat Recovery Instantaneous System 1

No

Waste Water Heat Recovery Instantaneous System 2

No

Waste Water Heat Recovery Storage System

No

Solar Panel

No

Water use <= 125 litres/person/day

Yes

Summer Immersion

No

Cold Water Source

From header tank

Bath Count

1

Supplementary Immersion

No

Immersion Only Heating Hot Water

No

28.1 Showers

Description

Shower Type

Flow Rate

Rated Power

Connected Connected To

Bathroom
E/S

Unknown
Unknown

8.00
8.00

[l/min]
[kW]

No
No

Summary for Input Data



28.3 Waste Water Heat Recovery System

29.0 Hot Water Cylinder

Hot Water Cylinder	Hot Water Cylinder	
Cylinder Stat	Yes	
Cylinder In Heated Space	Yes	
Independent Time Control	Yes	
Insulation Type	Measured Loss	
Cylinder Volume	180.00	L
Loss	2.10	kWh/day
Pipes insulation	Fully insulated primary pipework	
In Airing Cupboard	No	

31.0 Thermal Store

None

Recommendations

Lower cost measures

None

Further measures to achieve even higher standards

	Typical Cost	Typical savings per year	Ratings after improvement	
			SAP rating	Environmental Impact
Solar water heating	£4,000 - £6,000	£56	B 85	A 97
	£3,500 - £5,500	£167	B 90	A 98
			0	0

Predicted Energy Assessment



House 1, Milton Mount Hill, Gravesend, Kent, DA12 1NQ

Dwelling type:

House, End-Terrace

Date of assessment:

29/03/2023

Produced by:

Paul Whiffin

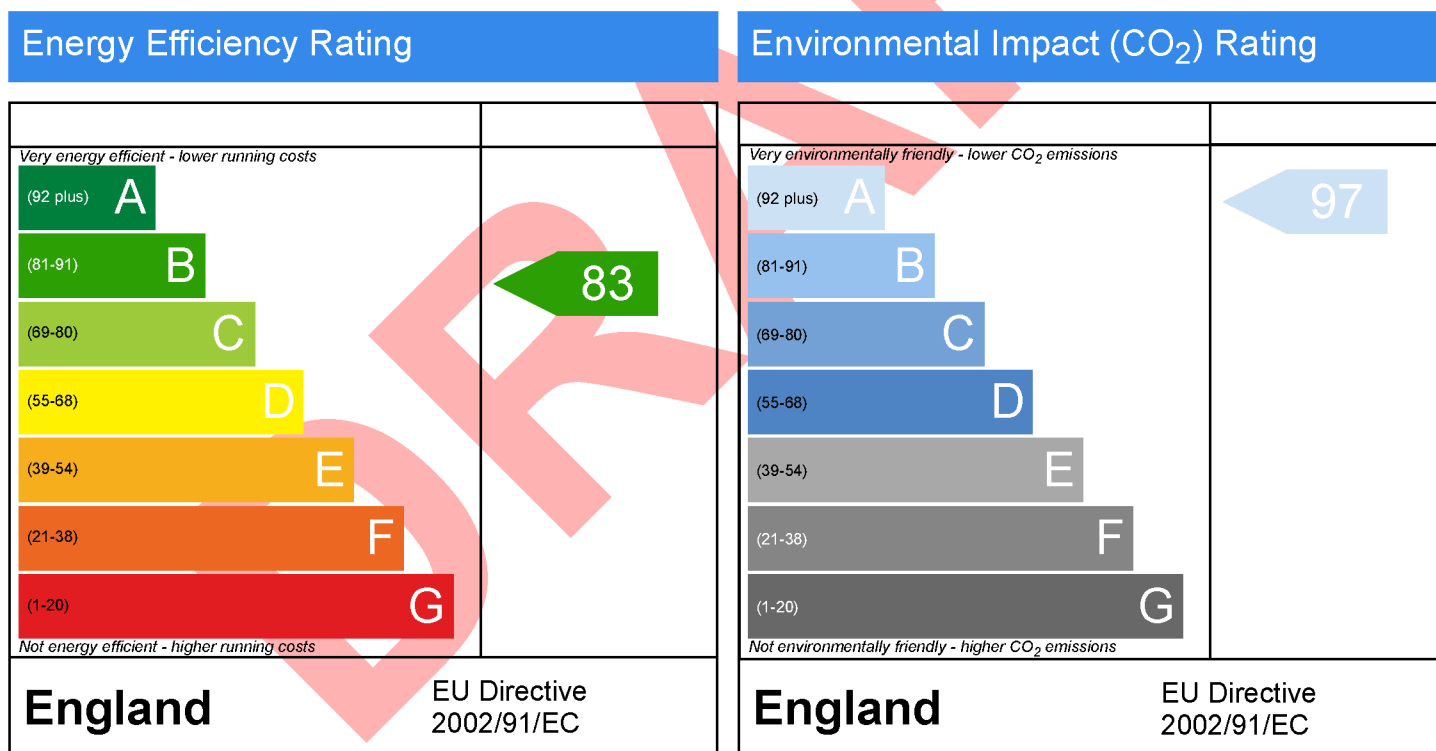
Total floor area:

99.41 m²

DRRN:

This document is a Predicted Energy Assessment for properties marketed when they are incomplete. It includes a predicted energy rating which might not represent the final energy rating of the property on completion. Once the property is completed, this rating will be updated and an official Energy Performance Certificate will be created for the property. This will include more detailed information about the energy performance of the completed property.

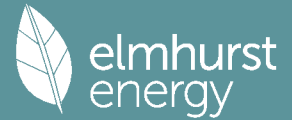
The energy performance has been assessed using the Government approved SAP 10 methodology and is rated in terms of the energy use per square meter of floor area; the energy efficiency is based on fuel costs and the environmental impact is based on carbon dioxide (CO₂) emissions.



The energy efficiency rating is a measure of the overall efficiency of a home. The higher the rating the more energy efficient the home is and the lower the fuel bills are likely to be.

The environmental impact rating is a measure of a home's impact on the environment in terms of carbon dioxide (CO₂) emissions. The higher the rating the less impact it has on the environment.

Thermal Bridging



Property Reference	House 3	Issued on Date	29/03/2023
Assessment Reference	Design V1	Prop Type Ref	End-Terrace House
Property	House 1, Milton Mount Hill, Gravesend, Kent, DA12 1NQ		

SAP Rating	83 B	DER	3.90	TER	9.16
Environmental	97 A	% DER < TER			57.42
CO ₂ Emissions (t/year)	0.35	DFEE	25.66	TFEE	28.48
Compliance Check	See BREL	% DFEE < TFEE			9.90
% DPER < TPER	13.93	DPER	40.97	TPER	47.60

Assessor Details	Mr. Paul Whiffin	Assessor ID	Y314-0001
Client			

	Junction details	Source Type	Psi (W/mK)	Length (m)	Result	Reference
External wall	E2 Other lintels (including other steel lintels)	Non Gov Approved Schemes	0.040	8.62	0.34	E2 - LABC
External wall	E3 Sill	Non Gov Approved Schemes	0.027	4.93	0.13	E3 - LABC
External wall	E4 Jamb	Non Gov Approved Schemes	0.029	20.34	0.59	E4 - LABC
External roof	R1 Head of roof window	Table K1 - Default	0.240	0.78	0.19	R1 - Default
External roof	R2 Sill of roof window	Table K1 - Default	0.240	0.78	0.19	R2 - Default
External roof	R3 Jamb of roof window	Table K1 - Default	0.240	1.56	0.37	R3 - Default
External wall	E5 Ground floor (normal)	Non Gov Approved Schemes	0.048	8.49	0.41	E5 - LABC
External wall	E16 Corner (normal)	Non Gov Approved Schemes	0.050	2.48	0.12	E16 - LABC
External wall	E6 Intermediate floor within a dwelling	Non Gov Approved Schemes	0.003	19.47	0.06	E6 - LABC
External roof	R8 Roof to wall (rafter)	Table K1 - Default	0.120	5.24	0.63	R8 - Default
External roof	R7 Flat ceiling (inverted)	Table K1 - Default	0.120	1.12	0.13	R7 - Default
External wall	E14 Flat roof	Table K1 - Default	0.160	4.41	0.71	E14 - Default
External wall	E18 Party wall between dwellings	Non Gov Approved Schemes	0.022	19.32	0.43	E18 - LABC
Party wall	P2 Party wall - Intermediate floor within a dwelling	Table K1 - Default	0.000	26.08	0.00	P2 - Default
Party wall	P1 Party wall - Ground floor	Non Gov Approved Schemes	0.022	20.11	0.45	P1 - LABC
Party wall	P4 Party wall - Roof (insulation at ceiling level)	Non Gov Approved Schemes	0.018	14.02	0.25	P4 - LABC
Party wall	P5 Party wall - Roof (insulation at rafter level)	Non Gov Approved Schemes	0.026	4.50	0.12	P5 - LABC

Total: 162.25 W/mK:
Y-Value: 0.04 W/m²K:

Overview Report

Dwelling Address	House 1, Milton Mount Hill, Gravesend, Kent, DA12 1NQ
Report Date	29/03/2023
Property Type	House, End-Terrace
Floor Area [m ²]	99

This document is not an Energy Performance Certificate (EPC) as required by the Energy Performance of Buildings Regulations

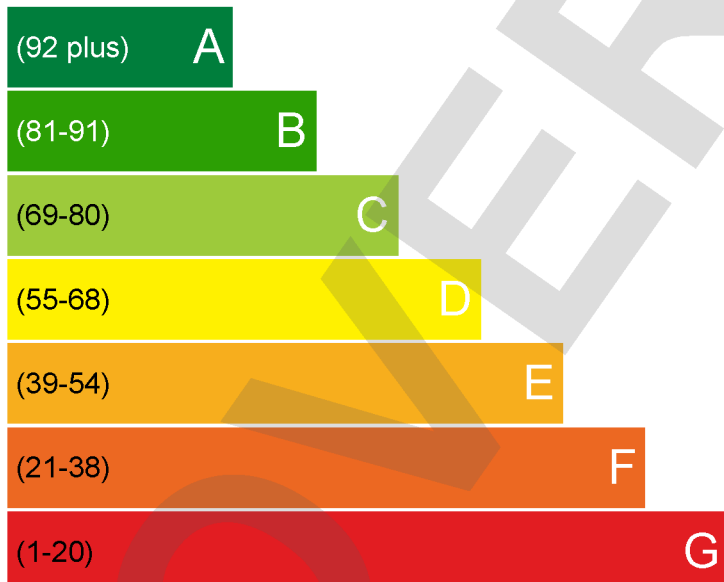
Energy Rating

The current energy rating represents the overall energy efficiency of the dwelling. The potential energy rating is the overall energy rating of the dwelling after all of the recommend measures provided on the next page have been installed. A higher score represents a more energy efficient dwelling with lower fuel bills.

Most energy efficient - lower running costs

CURRENT

POTENTIAL



83

90

Least energy efficient - higher running costs

Breakdown of property's energy performance

Each feature is assessed as one of the following:

Very Poor	Poor	Average	Good	Very Good
-----------	------	---------	------	-----------

Feature	Description	Energy Performance
Walls	Average thermal transmittance 0.16 W/m ² K	Very Good
Roof	Average thermal transmittance 0.11 W/m ² K	Very Good
Floor	Average thermal transmittance 0.12 W/m ² K	Very Good
Windows	High performance glazing	Good
Main heating	Air source heat pump, radiators and underfloor, electric	Average
Main heating controls	Time and temperature zone control	Very Good
Secondary heating	None	
Hot water	From main system	Average
Lighting	Good lighting efficiency	Good
Air tightness	Air permeability [AP50] = 5.0 m ³ /h.m ² (assumed)	Good

Primary Energy use

The primary energy use for this property per year is 37 kilowatt hour (kWh) per square metre

Estimated CO₂ emissions of the dwelling

The estimated CO rating provides an indication of the dwelling's impact on the environment in terms of carbon dioxide emissions; the higher the rating the less impact it has on the environment.

The estimated CO emissions for this dwellings is: **0.3** per year

With the recommended measures the potential CO emissions could be: **0.2** per year

Recommendations

The recommended measures provided below will help to improve the energy efficiency of the dwelling. To reach the dwelling's potential energy rating all of the recommended measures shown below would need to be installed. Having these measures installed individually or in any other order may give a different result when compared with the cumulative potential rating.

Recommended measure	Typical Yearly Saving	Potential Rating after measure installed	Cumulative savings (per year)	Cumulative Potential Rating
Solar water heating	£56	 2	£56	 B 85
Photovoltaic	£167	 5	£223	 B 90

Estimated energy use and potential savings

Estimated energy cost for this property over a year

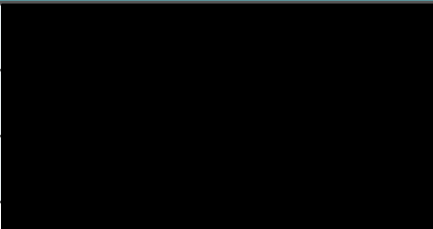
£437

Over a year you could save

£223

The estimated cost and savings show how much the average household would spend in this property for heating, lighting and hot water. It is not based on how energy is used by the people living at the property.

Contacting the assessor and the accreditation scheme

Assessor contact details		
Assessor name		
Assessor's accreditation number		
Email Address		

Accreditation scheme contact details

Accreditation scheme	Elmhurst Energy Systems Ltd
Telephone	01763 268685
Email Address	energy@atspaceltd.com

Assessment details

Related party disclosure	No related party
Date of assessment	29/03/2023
Date of certificate	29/03/2023
Type of assessment	SAP, new dwelling